Listing of Claims:

1. (currently amended) A composition for use in regulating hormones of a host, comprising at least one antisense oligonucleotide that is complementary to a nucleotide sequence of a follicle-stimulating hormone receptor (FSHR) transcript.;

wherein the antisense oligonucleotide is selected from the group consisting of deoxyribonucleosides, ribonucleosides, alpha-anomeric deoxyribonucleosides, alpha-anomeric ribonucleosides, and polyamide nucleic acids;

wherein the FSHR transcript is specific to a mammalian ovarian granulosa cell;

wherein the antisense oligonucleotide has a nucleotide sequence capable of forming a stable duplex with a portion of the FSHR transcript wherein the portion is lying within about 50 nucleotides from the translation initiation codon of the target nucleotide sequence;

wherein the antisense oligonucleotide is an oligomer of at least [[8]] 18 nucleotide residues and is less than 60 nucleotides;

wherein the antisense oligonucleotide comprises a sequence selected from the group consisting of SEQ ID NO: 1, SEQ ID NO:2, SEQ ID NO:3, and SEQ ID NO:4.

2 - 5. (canceled)

6. (previously presented) The composition of claim 1 wherein the antisense oligonucleotide is capable of forming a stable duplex with a portion of the target nucleotide sequence transcript including the translation initiation codon.

7. (previously presented) The composition of claim 6, wherein the antisense oligonucleotide is capable of preventing translation of the FSHR transcript upon forming a stable duplex with a portion of the FSHR transcript.

8. (previously presented) The composition of claim 7, wherein the antisense oligonucleotide comprises no more than one mismatch in complementarity with the transcript.

9. (previously presented) The composition of claim 7, wherein the antisense oligonucleotide is fully complementary to the transcript.

10. (original) The composition of claim 7, wherein the antisense oligonucleotide is an oligomer containing at least 15 nucleotide residues and is less than 40 nucleotides.

11. (original) The composition of claim 7, wherein the antisense oligonucleotide is an oligomer containing at least 18 nucleotide residues and is less than 30 nucleotides.

12. (original) The composition of claim 7, wherein the antisense oligonucleotide is a phosphorothioated 18-mer antisense oligodeoxynucleotide.

13. (original) The composition of claim 12, wherein the antisense oligonucleotide is selected from the group consisting of SEQ ID NO: 1, SEQ ID NO:2, SEQ ID NO:3, and SEQ ID NO:4.

14. (original) The composition of claim 7, wherein the antisense oligonucleotide contains at least one nuclease-resistant internucleosidic linkage.

15. (previously presented) The composition of claim 14, wherein the internucleosidic linkage is selected from the group consisting of phosphorothioate; phosphorodithioate; phosphoramidate; peptide nucleic acid; methylphosphonate; P-chiral linkage, chiral phosphorothioate, phosphoroselenoate, phosphorodiselenoate, phosphoroanilothioate, phosphoranilidates, phosphotriester, aminoalkylphosphotriester, alkylphosphotriester, carbonate, carbamate, morpholino carbamate, 3'thioformacetal, and silyl.

16. (previously presented) The composition of claim 14, wherein the internucleosidic linkage is a phosphorus analog.

17. (previously presented) The composition of claim 7, wherein the antisense oligonucleotide contains at least one substituted sugar moiety .

18. (previously presented) The composition of claim 16, wherein the phosphorus analog is selected from the group consisting of phosphorothioate, phosphorodithioate, phosphoramidate, and methylphosphonate.

19. (previously presented) The composition of claim 16, wherein the phosphorus analog is a phosphorothioate.

20. (original) The composition of claim 7, wherein the composition includes a pharmaceutical carrier

21. (original) The composition of claim 20, wherein the pharmaceutical carrier contains one or more compounds selected from the group consisting of excipients, buffers, surfactants, antioxidants, hydrophilic polymers, dextrins, chelating agents, suspending agents, solubilizers, thickening agents, stabilizers, bacteriostats, wetting agents, and preservatives.

22. (original) The composition of claim 7, wherein the antisense oligonucleotide is encapsulated in liposomes.

23. (original) The composition of claim 7, wherein the antisense oligonucleotide is conjugated to poly(L-lysine) to increase cell penetration.

24. (original) The composition of claim 7, wherein the antisense oligonucleotide is conjugated to a ligand-binding molecule.

25. (original) The composition of claim 24, wherein the ligand-binding molecule is an antibody.

26. (original) The composition of claim 20, wherein the composition is in the form of a pill, tablet, or capsule for oral administration to a subject in need of said compound.

27. (original) The composition of claim 20, wherein said composition is in the form of a liquid for oral administration to a subject in need of said compound.

28. (previously presented) The composition of claim 20, wherein said composition being is in the form of a liquid for nasal administration as drops or spray to a subject in need of said composition.

29. (original) The composition of claim 20, wherein said composition is in the form of a liquid for intravenous, subcutaneous, parenteral, or intraperitoneal administration to a subject in need of said composition.

30. (original) The composition of claim 20, wherein said composition is in the form of a biodegradable sustained- release composition for intramuscular administration to a subject in need of said composition.

31. (withdrawn) A method for regulating the fertility of a host, comprising contacting host ovarian cells with a safe and effective amount of a pharmaceutical composition comprising at least one antisense oligonucleotide that is complementary to the nucleotide sequence of the follicle-stimulating hormone receptor.

32. (withdrawn) The method of claim 31, wherein the antisense oligonucleotide is selected from the group consisting of deoxyribonucleosides, ribom cleosides, alpha-anomeric forms of deoxyribonucleosides and ribonuclcosidcs, and polyamide nucleic acids.

33. (withdrawn) The method of claim 32, wherein the antisense oligonucleotide has a nucleotide sequence capable of forming a stable duplex with a portion of a target nucleotide sequence of the FSHR gene.

34. (withdrawn) The method of claim 33, wherein the antisense oligonucleotides are capable of forming a stable duplex with a portion of the transcript lying within about 50 nucleotides the translation initiation codon of the target nucleotide sequence.

35. (withdrawn) The method of claim 33, wherein the antisense oligonucleotides are capable of forming a stable duplex with a portion of the transcript lying within about 40 nucleotides from the translation initiation codon of the target nucleotide sequence.

36. (withdrawn) The method of claim 35, wherein the antisense oligonucleotides are capable of forming a stable duplex with a portion of the target nucleotide sequence including the translation initiation codon.

37. (withdrawn) The method of claim 36, wherein the antisense oligonucleotide is specific for the FSHR gene in the ovarian granulosa cell of a human host.

38. (withdrawn) The method of claim 37, wherein the antisense oligonucleotide is an oligomer containing at least 8 nucleotide residues and is less than 60 nucleotides.

39. (withdrawn) The method of claim 37, wherein the antisense oligonucleotide is an oligomer containing at least 12 nucleotide residues and is less than 50 nucleotides.

40. (withdrawn) The method of claim 37, wherein the antisense oligonucleotide is an oligomer containing at least 15 nucleotide residues and is less than 40 nucleotides.

41. (withdrawn) The method of claim 37, wherein the antisense oligonucleotide is an oligomer containing at least 18 nucleotide residues and is less than 30 nucleotides.

42. (withdrawn) The method of claim 37, wherein the antisense oligonucleotide is a phosphorothioated 18-mer antisense oligodeoxynucleotide.

43. (withdrawn) The method of claim 42, wherein Ihe antisense oligonuclcotide is selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, and SEQ ID NO:4.

44. (withdrawn) The method of claim 37, wherein the antisense oligonucleotide contains at least one nuclease-resistant intemucleosidic linkage.

45. (withdrawn) The method of claim 44, wherein the intemucleosidic linkage is selected from the group consisting of phosphorothioate; phosphorodithioates; phosphoramidates; peptide nucleic acids; methylphosphonates; P-chiral linkages, phosphorothioates, phosphoroselenoate, phosphorodiselenoate, phosphoroanilothioate, phosphoranilidate, alkylphosphotriester such as methyl- and ethylphosphotriester, carbonate, carbamate, morpholino carbamate, S'-thioformacetal, and silyl.

46. (withdrawn) The method of claim 44, wherein the intemucleosidic linkage is a phosphodiester linkage

47. (withdrawn) The method of claim 46, wherein the phosphodiester linkage is a phosphorus analog.

48. (withdrawn) The method of claim 47, wherein the phosphorus analog is selected from the group consisting of phosphorothioate, phosphorodithioate, phosphoramidate, and methylphosphonate.

49. (withdrawn) The method of claim 47, wherein the phosphorus analog is a phosphorothioate.

50. (withdrawn) The method of claim 37, wherein the composition includes a pharmaceutical carrier.

51. (withdrawn) The method of claim 50, wherein the pharmaceutical carrier contains one or more compounds selected from the group consisting of excipients, buffers, surfactants, antioxidants, hydrophilic polymers, dextrins, chelating agents, suspending agents, solubilizers, thickening agents, stabilizers, bacteriostats, wetting agents, and preservatives.

52. (withdrawn) The method of claim 37, wherein the antisense oligonucleotide is encapsulated in liposomes.

53. (withdrawn) The method of claim 37, wherein the antisense oligonucleotide is conjugated to poly(L-lysine) to increase cell penetration.

54. (withdrawn) The method of claim 37, wherein the antisense oligonucleotide is conjugated to a ligand-binding molecule.

55. (withdrawn) The method of claim 54, wherein the ligand-binding molecule is an antibody.

56. (withdrawn) The method of claim 50, wherein the composition is in the form of a pill, tablet, or capsule for oral administration to a subject in need of said compound.

57. (withdrawn) The method of claim 50, wherein said composition is in the form of a liquid for oral administration to a subject in need of said compound.

58. (withdrawn) The method of claim 50, wherein said composition being is in the form of a liquid for nasal administration as drops or spray to a stibject in need of said method.

59. (withdrawn) The method of claim 50, wherein said composition is in the form of a liquid for intravenous, subcutaneous, parenteral, or intraperitoneal administration to a subject in need of said method.

60. (withdrawn) The method of claim 50, wherein said composition is in the form of a biodegradable sustained- release method for intramuscular administration to a subject in need of said method.

61. (withdrawn) The method of claim 37, wherein the antisense oligonucleotides are used in combination with at least one fertility regulating agents.

62. (withdrawn) The method of claim 61, wherein the fertility regulating agent is selected from the group consisting of estrogenic steroids, progestogens and mixtures and derivatives thereof.

63. (withdrawn) The method of claim 62, wherein the estrogenic steroid is selected from the group consisting of estradiol, estradiol benzoate, estradiol cypionate, estradiol valerate, estrone, diethylstilbestrol, piperazine estrone sulfate, ethinyl estradiol, mestranol, polyestradiol phosphate, estriol, estriol hemisuccinate, quinestrol, estropipate, pinestrol, estrbne potassium sulfate, equilelinin, equilelinin sulfate, estetrol and mixtures and derivatives thereof.

64. (withdrawn) The method of claim 62, wherein the progestogen is selected from the group consisting of progesterone, ethynodiol diacetate, hydroxyprogesterone caproate, medroxyprogesterone acetate, norethindrone» norethindrone acetate, norethynodrel, norgestrel, progesterone, megestrol acetate and mixtures and derivatives thereof.

65. (withdrawn) A method for chemoprevention or chemotherapy in a host, comprising contacting host cells with a safe and effective amount of a pharmaceutical composition comprising at least one antisense oligonucleotide that is complementary to a nucleotide sequence encoding follicle-stimulating hormone.

66. (withdrawn) The method of claim 65, wherein the antisense oligonucleotide is one or more compounds selected from the group consisting of deoxyribonucleosides, ribonucleosides, alpha-anomeric forms of deoxyribonucleosides and ribonucleosides, polyamide nucleic acids and mixtures and derivatives thereof.

67. (withdrawn) The method of claim 66, wherein the antisense oligonucleotide has a nucleotide sequence capable of forming a stable duplex with a portion of the nucleotide sequence encoding follicle-stimulating hormone.

68. (withdrawn) The method of claim 67, wherein the antisense oligonucleotides are capable of forming a stable duplex with a portion of the transcript lying within about SO nucleotides the translation initiation codon of the target nucleotide sequence.

69. (withdrawn) The method of claim 67, wherein the antisense oligonucleotides are capable of forming a stable duplex with a portion of the transcript lying within about 40 nucleotides from the translation initiation codon of the target nucleotide sequence.

70. (withdrawn) The method of claim 69, wherein the antisense oligonucleotides are capable of forming a stable duplex with a portion of the target nucleotide sequence transcript including the translation initiation codon.

71. (withdrawn) The method of claim 70, wherein the antisense oligonucleotide is specific for the FSHR gene of a human host.

72. (withdrawn) The method of claim 71, wherein the antisense oligonucleotide is an oligomer containing at least 8 nucleotide residues and is less than 60 nucleotides.

73. (withdrawn) The method of claim 71, wherein the antisense oligonucleotide is an oligomer containing at least 12 nucleotide residues and is less than 50 nucleotides.

74. (withdrawn) The method of claim 71, wherein the antisense oligonucleotide is an oligomer containing at least 15 nucleotide residues and is less than 40 nucleotides.

75. (withdrawn) The method of claim 71, wherein the antisense oligonucleotide is an oligomer containing at least 18 nucleotide residues and is less than 30 nucleotides.

76. (withdrawn) The method of claim 71, wherein the antisense oligonucleotide is a phosphorothioated 18-mer antisense oligodeoxynucleotide.

77. (withdrawn) The method of claim 76, wherein the antisense oligonucleotide is selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, and SEQ ID NO:4.

78. (withdrawn) The method of claim 71, wherein the antisense oligonucleotide contains at least one nuclease-resistant internucleosidic linkage.

79. (withdrawn) The method of claim 78, wherein the internucleosidic linkage is selected from the group consisting of phosphorothioate; phosphorodithioates; phosphoramidates; peptide nucleic acids; methylphosphonates; P-chiral linkages, phosphorothioates, phosphoroselenoate, phosphorodiselenoate, phosphoroanilothioate, phosphoranilidate, alkylphosphotriester such as methyl- and ethylphosphotriester, carbonate, carbamate, morpholino carbamate, 3'-thioformacetal, and silyl.

80. (withdrawn) The method of claim 78, wherein the internucleosidic linkage is a phosphodiester linkage

81. (withdrawn) The method of claim 80, wherein the phosphodiester linkage is a phosphorus analog.

82. (withdrawn) The method of claim 81, wherein the phosphorus analog is selected from the group consisting of phosphorothioate, phosphorodithioate, phosphoramidate, and methylphosphonate.

83. (withdrawn) The method of claim 81, wherein the phosphorus analog is a phosphorothioate.

84. (withdrawn) The method of claim 71, wherein the composition contains one or more compounds selected from the group consisting of excipients, buffers, surfactants, antioxidants, hydrophilic polymers, dextrins, chelating agents, suspending agents, solubilizers, thickening agents, stabilizers, bacteriostats, wetting agents, and preservatives.

85. (withdrawn) The method of claim 71, wherein the antisense oligonucleotide is encapsulated in liposomes.

86. (withdrawn) The method of claim 71, wherein the antisense oligonucleotide is conjugated to poly(L-lysine) to increase cell penetration.

87. (withdrawn) The method of claim 71, wherein the antisense oligonucleotide is conjugated to a ligand-binding molecule.

88. (withdrawn) The method of claim 87, wherein the ligand-binding molecule is an antibody.

89. (withdrawn) The method of claim 84, wherein the composition is in the form of a liquid, pill, tablet, or capsule for oral administration to a subject in need of said compound.

90. (withdrawn) The method of claim 84, wherein said composition is in the form of a liquid for nasal, intravenous, subcutaneous, parenteral, or intraperitoneal administration to a subject in need of said method.

91. (withdrawn) The method of claim 84, wherein said composition is in the form of a biodegradable sustained- release method for intramuscular administration to a subject in need of said method.

92. (withdrawn) The method of claim 71, wherein the antisense oligonucleotides are used in combination with at least one cancer regulating agent.

93. (withdrawn) The method of claim 92, wherein the cancer regulating agent is at least one agent selected from the group consisting of a cytokine, an interleukin, an anti-cancer agent, a chemotherapeutic agent, an antibody, a conjugated antibody, an immune stimulant, an antibiotic, a hormone antagonist, a growth stimulant and mixtures and derivatives thereof.

94. (withdrawn) The method of claim 93, wherein the chemotherapeutic agent is selected from the group consisting of alkylating agents, purine and pyrimidine analogs, vinca and vinca-like alkaloids, etoposide and etoposide-like drugs, corticosteroids, nitrosoureas, antimetabolites, platinum-based cytotoxic drugs, hormonal antagonists, anti-androgens, antiestrogens and mixtures and derivatives thereof.

95. (withdrawn) The method of claim 93, wherein the chemotherapeutic agent is an alkylating agent selected from the group consisting of cisplatin'and cyclophosphamide and mixtures and derivatives thereof.